

FEATURED NEWS

CONTENTS

Featured News	1
Advisory Panel Spotlight ..	3
Featured Research	6
Extension Highlights	7
Project Meeting Brief	8
Announcements	9
Recent Publications	9
Recent Presentations	10
Project Directors	10
Advisory Panel	11

DELIVERABLES (March to May 2024)

Research

- 4 Refereed journal articles
- 2 Conference presentations

Extension & Outreach

- 1 Extension article
- 5 Extension presentations
- 25 Samples diagnosed
- 50 Email/phone inquiries answered
- 4,286 People reached with articles/news

Education

- 6 Post-doctoral and -graduate associates
- 1 Graduate student
- 1 Internship

BBIG Met Global Challenge with International Seminars

By Margery Daughtrey, Cornell University, Riverhead, NY, and Chuan Hong, Virginia Tech, Virginia Beach, VA

Boxwood blight is an invasive exotic disease for the United States but also an invasive exotic disease for fans of this plant around the globe—scientists still do not know its origin. The Boxwood Blight Insight Group, BBIG, was formed in 2020, empowered by funding through the USDA National Institute of Food & Agriculture's Specialty Crop Research Initiative (SCRI) program.

In 2021, BBIG, with the goal of amassing existing knowledge, embarked on a series of partnerships with those who had studied boxwood and its health problems around the world. The disease had been seen in the United Kingdom as early as 1994, so others were far more familiar with the disease than we were in the USA. With the essential help of the Horticultural Research Institute (HRI) provided by Jennifer Gray and her staff, BBIG's International Boxwood Seminar Series was launched in March 2021 within the ongoing tHRIve webinars hosted by HRI. One boxwood seminar was produced each quarter for a two-year period.



Dr. Thomas Brand
Germany



Mr. Lynn Batdorf
USA



Dr. Katrijn van Larae
Belgium



Dr. Marc Kenis
Switzerland



Dr. Matthew Crome
United Kingdom



Dr. Thomas Hsiang
Canada



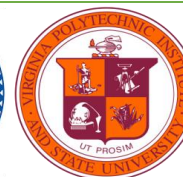
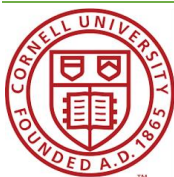
Dr. Len Coop
USA



Dr. Iryna Matsiakh
Sweden

Eight international speakers – their names and countries

Each of the invited speakers responded enthusiastically, willing to help with this educational effort with no financial compensation. Because of this generous global spirit of sharing among researchers, BBIG was able to mine the world for precious existing knowledge and safely archive the resulting gems at the boxwoodhealth.org site maintained by HRI. If you missed the live presentations, where the boxwood community was able to ask questions of the speakers, you can relive them now by clicking on any of the titles in the text below.



Each presenter provided a captivating story that benefited the scientific community and the nursery/landscape industry. The series began in March 2021 with Thomas Brand's perspective from Germany, [Boxwood Blight – A 15-year love-hate relationship](#). The American boxwood community was eager to learn of the 17 years of Europeans' experience that predated our own *Calonectria pseudonaviculata* vs *Buxus*.



A snapshot of Dr. Thomas Brand leading off the International Boxwood Seminar series

Next, shoring up our collective knowledge of the valuable and much-loved ornamental host that was the focus of our concern, Lynn Batdorf of the USA gave us [Knowing and Growing Boxwood](#). Boxwood, both singular and plural, are now less mysterious and even more interesting to his audience.

[Boxwood breeding and selection for blight resistance](#) was presented by Katrijn Van Laere of Belgium for the next seminar. Intimately involved with the breeding efforts in Europe, Katrijn shared with us their goals and successes.

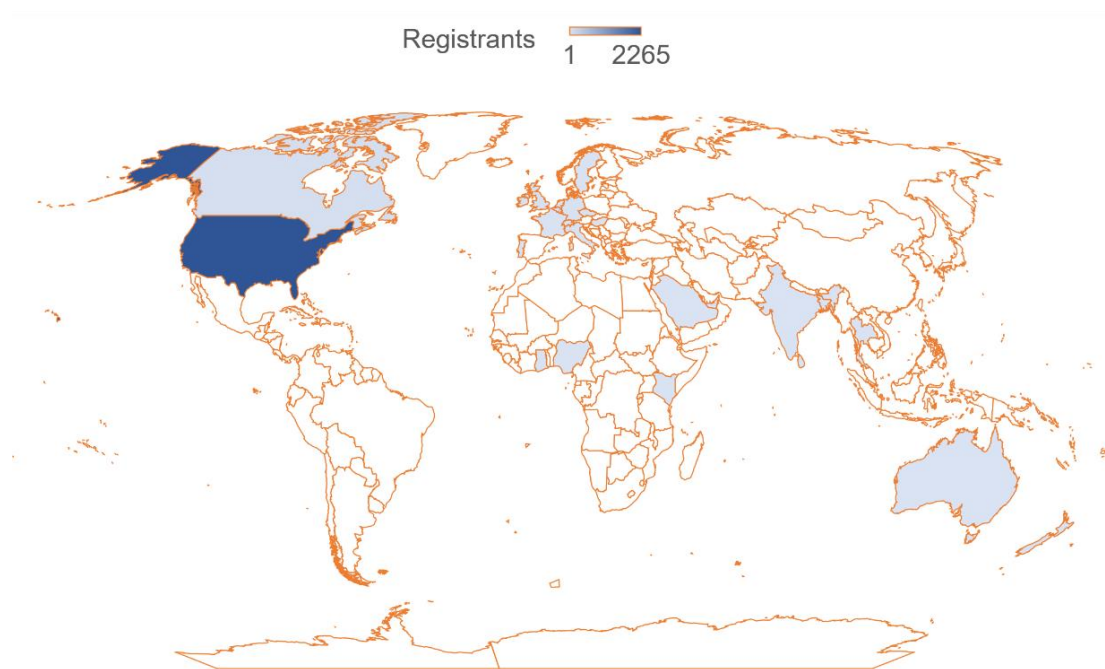
Looking ahead to the next threat, even though boxwood blight was still to be conquered, we were pleased to have the presentation by Marc Kenis of Switzerland on [Invasion, impact and management of box tree moth in Europe](#). Once again a pest problem had struck Europe first, and we needed a distillation of their experience to bolster our own defenses against this voracious pest.

Matthew Cromeey provided us with perspectives from two places half a world apart. He spoke on [Progress in boxwood blight management in the United Kingdom and New Zealand](#).

To shore up our knowledge of the other blight that has assailed boxwood for decades, Thomas Hsiang of Canada presented [Biology and management of Volutella blight caused by *Pseudonectria buxi*](#). Understanding the distinctions and the interplay between Volutella blight and boxwood blight can be important for anyone concerned with boxwood health management.

A special appearance by Leonard Coop of the USA introduced everyone to an app that helps us to predict boxwood blight outbreaks. He spoke on [How do weather and climate impact boxwood blight – A model approach to aiding disease management](#).

We have no boxwood forests in North America, but there are expanses of the tree in natural areas in Europe. Thus, finally, to better understand the impact of boxwood blight on *Buxus* as a forest species, Iryna Matsiakh from Sweden gave us a talk on [Calamities of Georgia's boxwood forests](#).



Global reach to 25 countries on five continents with 94% attendees from the USA

In total, 2,410 registered for these 8 seminars and 1,376 were present for the talks and the live Q&A that followed each. All the sectors of the green industry and many educators took advantage of this educational opportunity. Although 94% of attendees were from the US, the BBIG webinars found an audience in 24 other countries in North America, Europe, Asia, Africa and Oceania. BBIG members were so pleased to have been able to share this excellent international collaboration with the entire global boxwood community, while reaping the benefits of the information to ground their own research efforts. In 2022, NIFA awarded their Partnership Award to BBIG for Program Improvement Through Global Engagement, for their highly successful global approach to studying the problems of *Buxus*. The International Boxwood Seminar series was at the core of BBIG’s worldwide approach to learning and sharing information.

ADVISORY PANEL SPOTLIGHT



The ‘Boxwood Guy’ with his wife – Holly Hamilton in Longwood Gardens

[Dr. Lynn Batdorf](#), an BBIG Advisory Panel Member, calls himself “[The Boxwood Guy](#)”, but his profound knowledge of boxwood and horticulture goes far beyond the humble title. Lynn had 36 years of curator experience caring for the National Boxwood collection at the U.S. National Arboretum (USNA) in Washington, D.C., and he has continuously served as the International Cultivar Registration Authority for *Buxus* for 37 years. Lynn is the author of three bestselling books on boxwood and over 70 peer-reviewed journal articles.

Lynn’s passion for ornamental plants was seeded in his early life and grew ever since. As a little boy, he was so fascinated by the different colors, sizes, and shapes of the leaves in the woods that he would make his unique collections by taping them onto paper. His love for ornamental plants grew even more in high school, when horticulture classes and his intern job working at a daylily (*Hemerocallis*) farm opened a door to his career path in horticulture. In 1972, he was accepted into the Ornamental Horticulture program at the University of Maryland, where he had the opportunity to study ornamental plants extensively.

In 1977, Lynn landed a job at the National Arboretum at the age of 23 and it began his life-long journey with boxwood. At the USNA, he immediately

joined the American Boxwood Society to read as much as he could about the plant. But he soon learned that the literature about boxwood was rather scarce compared to other ornamental plants. This motivated him start writing articles and books on boxwood while taking care of over 170 boxwood species and cultivars at USNA as a curator.

Lynn's books and articles provide comprehensive and thorough references for this iconic landscape plant and its cultivation. The book *Boxwood: An Illustrated Encyclopedia* describes 1050 boxwood species and cultivars in detail, including their names, size, hardiness, habit, leaf shape, stem characteristics, and history. His research for this 343-page masterpiece required that Lynn make six trips to Europe in addition to numerous visits to nurseries and gardens across the United States over an 18-year period. For the past three years, he has been working on the 2nd edition of the encyclopedia, rewriting the text to include additional content on boxwood cultivar differentiation and the plants' resistance to boxwood blight and box tree moth. His other popular book *Boxwood Handbook: A Practical Guide to Knowing and Growing Boxwood* is also expected to have an exciting new 5th edition, which will provide updated boxwood care strategies guided by the latest research from the BBIG.

Through Lynn's lens, boxwood is and has been proven as a low maintenance plant. In a 3-week expedition to Azerbaijan and the Republic of Georgia, he witnessed the gorgeousness of boxwood in their natural habitats, in sharp contrast to the way they grow in the residential landscape where they face so many stresses. Lynn points out that people have been doing many things wrong in caring for their boxwood, without knowing the best interest of the plant—boxwood actually don't need too much care and they can live for several centuries.

Regarding the threats of boxwood blight and tree moth, Lynn is optimistic about the future of boxwood. He welcomes the production shift towards more blight resistant and smaller cultivars, and highly praises the transdisciplinary research efforts of BBIG. The advent of new technologies in breeding and in other aspects of horticulture kindles his hope for safeguarding boxwood in the future—he believes we are entering the most exciting era he has ever seen for the plant.

Lynn's biggest hobby: postage stamps. He describes himself as a philatelist, someone who not only collects stamps but also studies them extensively. He was a co-editor and authored three chapters and an appendix for *Encyclopedia of United States Stamps and Stamp Collecting* 2nd edition published by the United States Stamp Society. When asked about which stamp features boxwood, he will tell you the answer in a heartbeat.

(Dr. Xiaoping Li of Virginia Tech contributed this interview article)

[Dr. Casey Sclar](#) is the H.O. Smith Endowed Director of [the Arboretum at Penn State](#). He has a master of science degree and a doctorate in entomology from Colorado State University, and a bachelor of science degree in ornamental horticulture from California Polytechnic State University, San Luis Obispo. Casey's experience in horticulture spans almost three decades. As executive director of the American Public Gardens Association from 2011–2022, he served over 600 public gardens throughout the U.S., Canada, Mexico, and more than 20 other countries. Prior to that appointment, he spent 15 years leading plant health care efforts at Longwood Gardens in Kennett Square, PA, including soils and compost, IPM, land stewardship, and other sustainability programs. He is currently board vice president of the Xerces Society for Invertebrate Conservation and was the recipient of the American Public Gardens Association's Professional Citation in 2011. Since his arrival at Penn State, Casey has also been appointed an affiliate professor in the Department of Entomology in the College of Agricultural Sciences.



Casey's love for ornamental flora sprouted during his youth and has continued to blossom over time. "I was raised a landscaper. I got into it in my early teens. I took botanical science classes and had great mentors in botanical science that really helped me focus my efforts on horticulture," Casey says.

Highlighting the significance of boxwood and appreciating the long-term commitment required for its cultivation, Casey explains, "I have often said that boxwood is two things. For a landscape maintenance professional, it is a job security shrub because it has quite a few pests and diseases that need to be actively managed. For folks that produce boxwood, it is also the bourbon of shrubs because it takes about seven years to produce. The decisions that nurseries and professionals are making for what the 2031 crop is going to look like, they are making today."

Casey also serves on the Advisory Panel of the Boxwood Blight Insight Group (BBIG), and enjoys developing partnerships that benefit the growth and development of professionals in the horticulture industry, and help preserve, conserve, and grow gardens and habitats. "It is just a privilege to be associated with the group. All of the work that the Boxwood Blight Insight Group does influences sort of how we landscape and how we do things every day," Casey says. Casey appreciates BBIG's accomplishments, such as advancing students' academic journeys and supporting their career transitions. He also appreciates the extensive output of webinars, outreach documents, and extension materials produced by the BBIG Team, some of which have been translated into multiple languages.

Reflecting on his role in BBIG, Casey states, "I bring an inquisitive mindset to meetings, often approaching discussions from the perspective of my landscaping background. I consider factors such as landscape management, economics, and maintenance costs associated with boxwood. Collaborating with Dr. Charlie Hall on this aspect is particularly rewarding, as we delve into the true economic impact of diseases on boxwood and apply our findings to real-world scenarios. My expertise as an entomologist with experience in landscape care and plant disease management further enhances the dynamic of our discussions and contributes to our collective understanding."

Casey encourages BBIG to be more actively involved in both Landscape maintenance and design aspects of the green industry. "I would encourage BBIG to be more involved in the Horticultural Landscape and Design Industry to make more powerful choices with boxwood in the landscape. Boxwood isn't suitable for every location, so there needs to be research in that area. Additionally, staying updated and being introduced to the latest inquiries regarding cultivars, techniques, and practices is crucial. There has been some movement in engaging the tree care, landscape plant care, and landscape maintenance industry, and I have been an advocate for that and thrilled to see progress. However, these conversations are ongoing, and I feel like they are just beginning. This is an active area of curiosity: how to tackle greater issues of landscape management economics, such as the cost of different practices in the landscape, with a focus on boxwood," Casey says.

Giving an update on the status of the boxwood tree moth in the United States and whether it is a potential concern, Casey states, "It continues to be discovered in different states, and it definitely has the potential to be a problem. The Pennsylvania Department of Agriculture has been proactive in establishing standards, first for boxwood blight and now for the boxwood tree moth, including inspection and quarantine protocols to regulate interstate trade. These measures are essential for slowing down the spread of boxwood tree moth. Additionally, I advocate for early detection through landscape traps to intercept the pest before it spreads further."

Outside of work, Casey loves spending time in nature walking his dog. Casey is motivated by two things: making beautiful gardens where people can enjoy nature and seeing people happy in those gardens. He loves seeing people's faces light up when they visit the botanic gardens. His proudest accomplishment is perhaps the legacy of individuals he has had the privilege to mentor and interact with. He holds his students in high regard, considering them some of the most wonderful people in the world.

Casey has three pieces of advice for early career researchers: "Train your brain, treat it as a job, and get involved. As one progresses into leadership, it's all about volunteering for something and embracing the spirit of volunteerism and service. Work hard, volunteer, and you will do fine," Casey advises.

(Dr. Ihsan Khaliq of Virginia Tech contributed this interview article)

FEATURED RESEARCH

Research and Innovation Highlights from the Recent BBIG Annual Meeting by Doug Luster, USDA ARS Foreign Disease-Weed Science Research Unit, Ft Detrick, MD

On May 7&9 2024, BBIG scientists attended the virtual BBIG Annual Meeting in a Zoom format to present their latest findings from the previous year and plans for the upcoming year to the Advisory Panel, boxwood growers and industry representatives. PI's all presented updates on their research projects and planned activities for upcoming year. The highlight for many participants were presentations by postdoctoral research scientists and graduate students on their research projects in BBIG PI's labs. Highlights included:

[Doug Luster](#) at ARS in Ft Detrick, MD provided an update on the development of lateral flow strips for detection and diagnosis of boxwood blight. Antibodies are still in specificity testing and ARS Office of Technology Transfer is assisting him in identifying commercial companies and agreements for developing the devices.

[Jerry Weiland](#) with ARS in Corvallis OR continued reports on his Oregon nursery surveys and identification of production issues that lead to blight outbreaks. Jerry hit his goal of visiting 20 nurseries starting from 2019. Fifteen percent of the surveyed nurseries had plants infected with boxwood blight, 13% of inventory (a total of inventory 8.6M boxwood) had boxwood blight. He reported on three nursery case studies with boxwood blight, leading to extensive losses.

[Jo Anne Crouch](#) with ARS in Ft Detrick, MD introduced postdoc John Dobbs and Biologist Christine Stone. She is investigating whether there is a correlation between boxwood blight genotypes and disease phenotypes, given that there is little genetic diversity in the boxwood blight pathogen in the US and globally. The Crouch lab is currently characterizing the genetic diversity of Oregon nursery isolates provided by Jerry Weiland.

[Nina Shishkoff](#) with ARS in Ft Detrick, MD reported on a set of experiments conducted to determine how relative humidity affects disease incidence and severity among cultivars. She placed infected cuttings in small chambers and used glycerol solutions to precisely control relative humidity, then measured sporulation and disease over time.

[Ihsan Khaliq](#), a postdoc with Virginia Tech, reported on epidemiological studies with multiyear data from field experiments in VA and NC, correlating temperature, relative humidity, rainfall, and leaf wetness with the disease observed on detector boxwood plants. He noted that boxwood blight requires a confluence of all factors to produce significant disease.

[Fulya Baysal-Gurel](#) with Tennessee State University updated the group on grower survey responses to questions aimed at determining critical boxwood blight control points in nursery practices that affect disease spread and mitigation. She reported that a new study on UV-C sensitivity of *C. pseudonaviculata* (*Cps*) using LED diodes for sterilization of tools was recently accepted for publication in Plant Disease. Further studies will evaluate sensitivity of *Cps* isolates and studies aimed at scaling up for larger scale production.

[Bhawana Ghimire](#), a former PhD student in Fulya's lab, reported on experiments testing plasma activated water on bacterial pathogens resulting in significant log reduction of the pathogens *Pseudomonas syringae*, and *Xanthomonas arboricola*.

[Bennett Saunders](#) reported on new varieties of NewGen boxwood that Saunders Bros. is breeding for tolerance to *Cps*. Their criteria include "Wow Factor, amount of defoliation, leaf miner resistance, and cold hardiness. Bennett stressed that we will all need patience while these slow growing plants develop.

[Margaret Pooler](#) with the ARS National Arboretum introduced new postdoc Dr. Feliz Gurel, and post-graduate Mitch Wingert. Mitch reported on his projects with RNA transcript sequencing from inoculated boxwood to identify potential plant responses to infection and AI detection technology. New hybrids created by Richard Olsen and Fred Gouker are being grown out and evaluated at the Arboretum. Margaret reported that Henry Guo has discovered a novel fungicidal extract from *Picea pungens* (blue spruce) in the Arboretum collection with in vitro anti-*Cps* growth properties and partial disease control in *Cps* infected detached boxwood leaves and plants.

[Nate Westrick](#) with the Connecticut Ag Experiment Station updated on last season's field trials with antidesiccants for *Cps* control. This season he plans to test copper-based nanoparticles and screening their boxwood lines for blight susceptibility.

[Jay Pscheidt](#) at Oregon State University updated on planned fungicide drench trials with Topguard and sampling leaves to measure the uptake of the fungicide.

[Xiaoping Li](#), a postdoc with Virginia Tech reported on studies of microbiome composition in shoot tissues of boxwood grown in OR vs. VA, including core bacterial and fungal genera, as well as fungal markers linked to blight resistance in susceptible vs tolerant cultivars. Future work will explore the boxwood rhizosphere microbiome from soil samples collected from the same study.

Project Director Chuan Hong reported on [Ping Kong](#)'s work at Virginia Tech identifying endophytes recovered from English boxwood. One bacterial endophyte, *Pseudomonas eucalyptica*, was selected for further study and showed promise in pathogen suppression and plant growth promotion (Ping measured auxin production, phosphate solubilization, and siderophore production). Disease reduction in inoculated plants was significant if applied shortly before inoculation.

[Charlie Hall](#) with Texas A&M updated his 3 boxwood blight production models incorporating increases in variable costs associated with each Best Management Practice (BMP). He then showed a set of sensitivity analyses across each model, adjusting labor, materials, etc. and effects of “shrink” (loss of BB during production). Charlie emphasized the significant impacts that increases in each category of cost have on producers and showed an example of incidence on shrink due to BB incidence in a nursery. Chuan Hong asked whether Charlie could model how application of BMPs translates into benefits to producers via loss of shrink?

Discussion ensued on the ethics and benefit of fungicide treatments to suppress disease by growers before shipping. Mike Martin with AmericanHort/Horticultural Research Institute discussed the need to determine whether boxwood blight tolerance also confers leaf miner, box tree moth, Volutella blight etc. tolerance, and noted that there is a funded project to set up a common garden in NY where box tree moth is prevalent. Bennett Saunders noted that it has become clear that boxwood blight has slowly become a managed disease as growers continue shifting to tolerant cultivars, while adapting BMPs; producers must ensure that they are producing clean plants, or the industry will suffer.

Each of the research presentations stimulated questioning by Advisory Panel members, stakeholders and BBIG researchers, making the sessions a valuable learning experience, and identifying new avenues for research.

EXTENSION HIGHLIGHTS

Extension Highlights from the Annual Meeting By Margery Daughtrey, Connell University, Riverhead, NY

The Extension arm of BBIG has been highly visible and productive over the past year, bringing the nuances of boxwood health maintenance and details of disease research and management to an ever-expanding audience. All of the items have been captured and organized into a Knowledge Center through our partnership with the Horticultural Research Institute (HRI), the research arm of AmericanHort. [Jennifer Gray](#) and her team, with ideas from project leader [Chuan Hong](#), have reworked and updated the BoxwoodHealth.org website in recent months, making it a one-stop-shopping resource for all information on boxwood health. As discussed in the BBIG Annual Meeting, the group is electing to do some “rebranding” now, as the nursery and landscape industry and gardeners are facing a period when overall boxwood health and successful plantings are more relevant to them than the boxwood blight disease caused by *Calonectria* species alone.

Following a successful run of 8 international webinars on boxwood health, outreach via the HRI tHRive series of webinars has now moved to a new series: showcasing BBIG research accomplished through our Specialty Crops Research Institute (SCRI) grant funding from the USDA National Institute of Food & Agriculture (NIFA) that began in 2020. This series began with [Jim LaMondia](#)'s description of his comprehensive management-directed studies for battling boxwood blight in summer 2023 (596 registrants), followed by [Fred Gouker](#)'s seminar on boxwood breeding efforts at the US National Arboretum and initial efforts to incorporate AI (artificial intelligence) into his work, held this January. The wide viewing of these was described by Jennifer Gray, along with the announcement of the next seminar in the series to be given May 30th at 1 pm by [Fulya Baysal-Gurel](#) on her sanitation research. New survey techniques designed by Charlie Hall and implemented this year have helped us to better understand the impact of our webinars. For

example, 69% of the audience who completed the exit survey plan to use things they learned from Dr. Gouker; those surveyed indicated that the financial impact of his work and webinar would be over \$2.8 million.

[Nick Leas](#), IT guru at HRI, reported that the BBIG website's engagement rate per user has been increasing, which is an indicator of the actual utility of the information being shared. The statistics indicate that BBIG is presenting strong content. There have been 34,216 searches on the site, making it a small site compared to many, but fantastic in terms of our ability to get information out to our audience. Recently connections have been made to the International Society of Arboriculture, and it is anticipated that their advertising of our events will bring even more stakeholders to the information presented and archived by BBIG in partnership with HRI. This is fitting with our new emphasis on educating the green industry beyond the nursery producers, as encouraged by AP member [Casey Sclar](#) at the last annual meeting.

Another major extension effort was extended to the National Plant Disease Diagnostic Network (NPDN) on January 17th of this year. Diagnosticians were thus the primary audience, and 147 registered. This extremely appreciative group indicated interest in a future presentation with additional research findings as well. Only 50% of this audience was aware of BBIG before attending this symposium. The NPDN has a high stake in boxwood problem identification: [Karen Snover-Clift](#), who suggested and ran the Symposium, reported that the national repository has 3,136 entries concerned with finding or checking for boxwood blight's pathogen, *Calonectria pseudonaviculata*. It was especially satisfying to highlight [Mana Okura](#) and [Xiao Yang](#), as speakers for this symposium, as they had earlier been postdocs funded by the BBIG project before joining the NPDN at Oregon State University and Clemson University.

Extension efforts in the Pacific Northwest have been especially strong. Outreach to the Hispanic nursery workers was described by [Luisa Santamaria](#) who reminded us that this audience makes up 80-90% of the nursery industry workforce and needs bilingual educational materials. She has focused on hands-on workshops and development of materials to assist with scouting, including a new poster that is currently being finalized. Plans are afoot to make a Spanish-language section at the BBIG website. [Jay Pscheidt](#) provided us with the fact that boxwood blight was the topic with 38th most interest on the Pacific Northwest Handbook's site – which as a point of reference is not far from Phytophthora as the 29th most-clicked-upon topic. Both Jay and Luisa as well as [Jerry Weiland](#) will be presenting on boxwood blight at the FarWest Show this year, and [Nina Shishkoff](#) will be presenting at Cultivate'24.

PROJECT MEETING BRIEF

BBIG Leadership Team and [Advisory Panel](#) (AP) held their 14th quarterly project meeting on March 1, 2024. 'Eradication of boxwood blight propagules' presented by [Nina Shishkoff](#) of USDA ARS Foreign Disease and Weed Science Research Unit in Ft Detrick, MD was the featured talk, followed by research and extension updates and project management discussion, including planning for the upcoming 3rd BBIG Annual Meeting. In compliment to the numerous project accomplishments, one of the major comments from the AP members was to better document the project's broad and significant impacts, including how many people were reached and trained through extension programs and presentations, and how many students, postdocs, and interns were advised.

The [BBIG Team](#) including Project Directors, their associates and AP members held their third annual meeting virtually via Zoom on May 7 and 9, 2024, reviewing and celebrating major accomplishments since February 2023 and planning for the final year – 15 months of the project.

Three monthly **Project Leadership Team** Meetings were held on March 13, April 10 and May 24, 2024, respectively. The March and April meetings had two major topics – BBIG Boxwood Seminar planning and better reach to the International Society of Arborists (ISA) community and other landscaping professionals. Specifically, these meetings identified a list of new topics and presenters for the Seminar series. Among the outreach strategies charted were: 1) introducing the BBIG Team and the tremendous resources it has produced through an article on the ISA flagship journal, 2) adding the BBIG Boxwood Seminars to the ISA Events Calendar, and 3) exploring with HRI the possibilities to make future seminars each a continuous educational unit. Other major topics of discussion during these meetings were monthly digests and quarterly newsletter as well as the 3rd BBIG annual meeting and final project meeting in Washington, DC in 2025. The May meeting

reviewed the new ideas emerged from the annual meeting, prioritized and charted strategies to make them realities.

ANNOUNCEMENTS

Congratulations to [Dr. Fulya Baysal-Gurel](#) on being named Associate Dean for Research, College of Agriculture at Tennessee State University.



[Dr. John Dobbs](#) recently joined the BBIG Team as an ORISE Postdoc Fellow at the USDA-ARS Foreign Disease and Weed Science Research Unit in Ft Detrick, MD. John has 12 years of forest and tree pathology related experience, primarily studying fungal pathogens. He received his bachelor's degree in botany with a minor in zoology and a certificate in aquaculture design from the University of Hawai'i at Manoa. As a nursery experimentalist at the Hawaii Agriculture Research Center, John studied disease resistance breeding and cultivar selection of tree (e.g., *Acacia koa* and eucalyptus) and beverage crops (e.g., coffee, cacao, & 'awa). John studied plant pathology in his graduate studies at Colorado State University, designing pathogen-specific molecular diagnostic tools to differentiate highly virulent strains of the koa wilt pathogen (*Fusarium oxysporum* f. sp. *koae*) using genome comparisons of pathogenic vs non-pathogenic strains. In his Doctorate studies, John used multi-omics tools to study the shared evolutionary history among *Fusarium* spp. associated with conifer (*Pinaceae*) seedlings in the U.S. nurseries.

John is currently working with Dr. Doug Luster on the development of a rapid diagnostic assay for detection of the boxwood blight pathogens, *Calonectria henricotiae* (*Che*) and *C. pseudonaviculata* (*Cps*). Additionally, he is investigating with Dr. Jo Anne Crouch on the pathogenomics of nursery and landscape populations of *Cps* in the U.S. and *Che* and *Cps* in Europe.

[Dr. \(Ayse\) Filiz Gurel](#) joined the BBIG Team as an ORISE visiting scholar at the USDA-ARS U.S. National Arboretum on March 18, 2024. Filiz holds a Ph.D. in Molecular Biology-Genetics from Istanbul University. She has extensive experience in establishing tissue culture systems and advancing genetic engineering in recalcitrant plants. During her postdoctoral tenure at Stony Brook University (NY), she contributed to the development of a cell-based assay aimed at elucidating pathogenic mechanisms, specifically by monitoring protein nuclear import and export dynamics. In her previous projects, Dr. Gurel led the characterization of Anatolian Cereal germplasm for their water-stress and fungal pathogen tolerance using physiological and transcriptomic assays, and demonstrated allelic variations related to stress tolerance in wild barley lines. She engaged in collaborative projects with institutions such as the Max Planck Institute (Cologne), European Bioinformatics Institute (EMBL-EBI), and University of Maryland (College Park). Dr. Gurel also possesses significant expertise in plant transformation, CRISPR-Cas9 genome editing, and genome-wide analyses of edited plants. She will be working with Dr. Fred Gouker on molecular biology and biotechnology of boxwood and other ornamental plants.



RECENT PUBLICATIONS

Refereed Journal Articles

1. Ghimire, B., Pendyala, B., Patras, A., and Baysal-Gurel, F. 2024. Evaluating UV-C sensitivity of *Calonectria pseudonaviculata* in model buffer solution using UV-C light emitting-diode system. Plant Disease Open access at <https://doi.org/10.1094/PDIS-03-24-0618-SC>.
2. Kong, P., Ioos, R., and Hong, C. X. 2024. First report of *Calonectria henricotiae* causing box blight in Spain. New Disease Reports. Open Access at <https://doi.org/10.1002/ndr2.12278>.

- Li, X. P., Weiland, J. E., Ohkura, M., Luster, D. G., Daughtrey, M. L., Gouker, F. E., Chen, G., Kong, P., and Hong, C. X. 2024. Cultivars and production environments shape shoot endophyte profiles of boxwood with different blight resistance. *PhytoFrontiers* Open access at <https://doi.org/10.1094/PHYTOFR-03-24-0023-R>.
- Ohkura, M., Beck, B. R., Scagel, C. F., and Weiland, J. E. 2024. The effect of boxwood leaf volatiles on conidial germination of *Calonectria pseudonaviculata*, the causal agent of boxwood blight. *Phytopathology*. Abstract at <https://doi.org/10.1094/PHYTO-12-23-0507-R>.

Newsletter and Trade Journal Articles

- Pscheidt, J. 2024. Boxwood (*Buxus* spp.) – boxwood blight. Online at [The 2024 Pacific Northwest Plant Disease Management Handbook](#).

RECENT PRESENTATIONS

Professional Conference Presentations, Seminars and Webinars

- Shishkoff, N. 2024. Differences in boxwood blight symptom expression in different *Buxus* cultivars. American Phytopathological Society – Potomac Division Annual Meeting, Martinsburg WV, March 27.
- Stone, C. 2024. Genotypic survey of *Calonectria pseudonaviculata* isolates from Oregon nurseries. American Phytopathological Society – Potomac Division Annual Meeting, Martinsburg WV, March 27.

Extension/Outreach Programs and Presentations

- Baysal-Gurel, F. 2024. Boxwood Blight Insight Group (BBIG): sanitation and nursery practices. BBIG Boxwood Seminar series, Virtual. May 30/
- Daughtrey, M. 2024. A mish-mash of maladies. Long Island Horticulture Conference, Upton, NY. March 5.
- Daughtrey, M. 2024. Stay poised for plant disease management. Pests, Plagues and Pollinators, New York State Nursery and Landscape Assn. Virtual. March 21.
- Hong, C. X. and Simmons, G. 2024. Protecting boxwood against blight and box tree moth. U.S. Environmental Protection Agency Integrated Pest Management Webinars. March 5.
- Likins, M. 2024. Field Demonstration to Six Volunteer Clinicians from Chesterfield County Plant Pathology, Entomology and Plant Science Laboratory at a Research Garden in Richmond, VA, April 18.

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